

MANAGEMENT TRAINING FOR COCKPIT CREWS AT PIEDMONT FLIGHT

J.C. Sifford

Piedmont Airlines

CAPT. SIFFORD: It is also our pleasure to be here today to be presenters to this group that we've worked with for quite a while and I look forward to working with in the future.

There are a couple of comments that were made earlier that I might just address to save questions later. I think it is fortunate that we got to go second and hear some of the questions that were asked of everyone.

When we developed the program, Hugh Huntington and I set forth a couple of goals that we wanted to work as far as what would be covered in the program, of course, and some of the type things that you would imagine: What do we want to train the pilots; when do we want to do it; what's the best time, prior to simulator, after simulator, before the oral, after the oral; should they be relaxed and airplanes off their mind, not worrying about their FAA check or company check? These are many of the things you will be faced with when you develop a plan.

We also went to the ALPA committee, which I think is essential in order to get the backing of the pilots. I think they need to be contacted, and we worked closely with them in the development of the program. The program on our part is completely voluntary. We asked the people would they like to participate. We contact the division chief pilot, and we say send us some pilots.

We've gone one step farther with our program. We try to group trainees by seniority. That's to say, we don't want a captain that's just checked out to be in the same class with a captain that's been a captain for 25 or 30 years. We feel like it's a more free exchange of information between the group which Hugh will refer to later. And we think this is a way that works best. Fortunately or unfortunately as the case may be, we have not worked our way up very far. We are at about five percent of our pilots. The reason is obviously trying to get the people off the line. We are paying \$240 or \$250 a day for the training, so we are paying quite a price for it as it is.

Another thing is we have no specific feedback back to

the management people. Hugh runs the school. We have some other management people that participate in it. We will explain the scenario of the school here momentarily. But as far as what Hugh does with the pilots, we have no paperwork that comes back. We just have a record that they attended the school. As far as which courses or grades etc., we keep no record of that, because we don't feel that's important to us.

I believe it was Dick who asked a question earlier about teaching an old dog new tricks. We've addressed that one, but we're not so sure we're really trying to teach this dog any trick at all. We think that we are rather -- we'd like to look at the tricks he knows. And that's to say that we have no illusions about changing the pilot's basic behavior traits in two days or probably two weeks. So what we endeavor to do is to point out to him, these are some of your weaknesses, how about looking at them?

One of the traits that came out of my class was that I'm a very stubborn person according to this instrument that Hugh used. I'm all the way in the bottom left corner. Now, he didn't tell my people that, they knew that already. They were too polite to tell me. I now realize that once I take a lot of information as this test indicates, and once I've made that decision I was very low, like five percentile, and the rest of the people 55, so I'm damn bullheaded according to Hugh. This is the type of thing that I try to be aware of now, and I suppose this is something someone could have told me this earlier but were too nice to.

Also the regulatory thing was mentioned a little bit earlier. In my opinion on the regulatory issue, I think that if the regulations are developed they should be similar to our training programs now whereby the regulations would indicate that the pilot should be trained, and I guess very similar to regulation by objective which is no longer with us.

It was mentioned earlier that one airline may tend to go into nuts and bolts, and another carrier may decide this not necessary. The FAA takes no position on that. I agree there are three, four or five or more ways to do this job, and whatever regulations are adopted should reflect this fact.

I will not attempt to give you a complete history of the airline, and I'm not going to ask questions later, but I know some of you don't know what the Piedmont Airline is, you've never heard of it before, so I would offer a brief overview of the airline's history so you can know where we came from also. We are a very small airline, and we still are a very small airline.

Piedmont Airlines is the largest division of Piedmont Aviation. Piedmont Aviation recently bought Henson Airline which I'm sure many of you are familiar with. We are a separate identity. They are just a part of Piedmont Aviation as Piedmont Airlines is. So we cross no boundaries at this time so far as training is concerned.

We took our name from a region in North Carolina. The Piedmont area is between the mountains of North Carolina and the coast. Translated, the word is a French word that means small mountain.

The airline began operations in 1948 with a fleet of three DC-3s. And the original route became an instant success. It offered service from Wilmington, North Carolina to Cincinnati, Ohio, and westward across coastal plains to the hills of North Carolina. It was over a large and undeveloped and inaccessible Appalachian Mountains that most of those cities are, bounded by North Carolina, Tennessee and Kentucky. The route continued on across Kentucky to Cincinnati.

By September 1948, the original route had grown considerably. It expanded within six months to include 21 cities.

In 1968 the route system had expanded into the mid-Atlantic states spanning the basic Wilmington - Cincinnati route up to New York to the north and Atlanta to the south and Memphis to the west.

The flight equipment included at that time F-27 aircraft. We later switched to Martin 404s, FH227s, and in the '68 time frame we went to the 727-100 aircraft and finally we bought 21 of the YS11s which gave way to 737s. During the 70s the airline grew all the way out to Denver, down to Dallas and Chicago. thus this unprecedented growth within Piedmont clearly defined a need to develop a management program for our captains. To give you a few examples, Piedmont expanded from a 51 aircraft fleet in 1977 to 84 "all jet" in '82. The plans have now been completed to take on 20 Fokker type aircraft, F28 aircraft, and they will be arriving sometime next year. We are also operating a fleet of 727-200s with more of those to come, so we are in quite busy with training. For those of us in training, there are a lot of unanswered opportunities for us to do something. By the mid to late '84 season, the fleet is scheduled to be about 180 aircraft. So we still have a bit of training to do.

In 1977 the pilot seniority list was at 377; today it's over a thousand, about 1,050. So the check out period in 737 and 727 is now four years for the captains since they've

been with the company, and it is expected to shorten considerably with the addition of the F28 aircraft.

Prior to now, we depended on our senior pilots to teach or to pass along the flavor of the airline to the less senior employees. This included the flying skills as well as the cockpit managerial skills.

In order to ensure that the necessary cockpit managerial skills were to continue and be passed on to the crew, we felt it was necessary to contact Hugh and his group to help us design this program. And we also looked around at several of the other operators that had developed programs. We talked to several people about it, and there again I think you're going to see a lot of similarity but not exactly the same program. There is some different philosophy within the program that we have and as you can see in the other airlines as well.

Our first thought was to offer a two-day seminar to our captains concerning aspects of supervision, which is another way of saying resource management or cockpit management; call it what you will. The course was to be developed using current as well as exploratory techniques that would acquaint the crews with the very basic idea of self-analysis, which we hoped would benefit the airlines by having a flight crew serve as a catalyst for retaining the traditional Piedmont flavor as it had been for the past years.

After the course structure was planned it was presented to senior management for the necessary plans for implementation. Senior management became very enthusiastic about the program and offered many helpful ideas and suggestions of how they could be included in the program.

An observation here at Piedmont had been made, and it goes something like this: The captain is the one common thread running throughout the airline, and that the aircraft and consequently its crew is what all the departmental goals are set towards. They are all aimed at getting an aircraft and crew safely airborne and its seats and cargo holds filled with revenue producing customers and cargo in the most efficient manner possible. Therefore, if the crews in their day-to-day contact with the customers and support personnel could reflect the image that senior management wants to convey, this would be a very effective vehicle for meeting our corporate goals.

Mr. Bill Howard came with us five years ago as the president and chief executive officer of the company. The senior management not only approved the funds for the seminar but graciously agreed to participate in each

seminar.

Mr. Howard himself feels that the program is of sufficient importance that he spends two to three hours with the crew or the training captains each time they have a meeting. This active participation on his part is one of the highlights of the Captain - Management Seminar, as we call ours, and I think it's probably one of the keys to its success to have that level of management support behind it.

Without exception, the crews feel that if Piedmont executives take time from their busy schedule, the president in particular, to talk to them and answer questions that their company is truly interested in them as a company representative. The active participation of the president tends to assure that other senior top level management people make themselves available as well.

The vice-president of flight operations and the director of flight ops host the participants to a dinner the night before the program. We normally start it on a Tuesday, and on Monday night they show up and go out to dinner at one of the local restaurants. We feel this is a pretty important part also. This tends to be one of the highlights, because as you can well imagine we are getting away from where we knew everyone by their first name and their wife and their children and where they live. We've grown too large for that, unfortunately. We don't know all these people by their first name, and I'm sure some of the rest of you are in the same position today with your growth. It's helped us in flight ops to be able to answer questions and establish a line of communication with those captains that we don't believe we would have had without this participation at the dinner. So we feel like this is a very important part of this program.

Among the other participants is the senior vice-president of marketing. He discusses with them generally crew communications and how they can influence and make a definite positive impression on the customer.

The vice-president of maintenance stresses the importance of crew participation in the maintenance areas and there is generally an overview of the support required to get the aircraft aloft.

The vice-president of finance discusses with the pilots how they can affect the profitability picture through decisions they make. We all know they can affect the profitability picture quite a lot.

Management participation is now at such a level that we are thinking of increasing the course length. We started

with a day and a half for management and now it's up to two days. We think we are going to increase that part again. I should explain that we have a four-day program. Hugh has two of those days, and we use the other two for technical things such as the Federal Air regs, visitation to the executives of the company and this type thing. So by increasing it one day, Hugh will get about a half a day of it and the other half a day will be for technical skills such as the Federal regs, the minimums, and this type thing.

As I mentioned earlier, this is a brief overview, and I have not attempted to discuss the managerial program in detail. Rather, Hugh of Organizational Consultants in Charlotte will do that. I would like to mention that we intend to increase the scope of the program, and we are going to not only involve the junior captains with the program; we are going to get the senior captains involved as well, just as soon as time permits. We are working from the bottom in seniority up in groups as best we can as I explained earlier.

We've appropriated monies at the present time for development of a new program, and this one is going to be a "train-the-trainer" type program where we intend to get our check pilots involved. They have already attended the captain school. We are going to develop a program just for the check pilots, so they will be able to make observations and give us feedback, not on the individual but how this individual acts, as someone mentioned earlier, under stress -- this is not a gradeable-type thing. It will be the type program where he will be able to act with the crew and make suggestions on a one-on-one basis. So the train-the-trainer program is just around the corner.

We also intend to involve the flight attendants with this program. We were talking with the flight attendant department and they announced that they can also be a part of it and possibly down the road station agent type personnel. The idea being a circle around the captain.

We've been very satisfied with the program right now. Some of this will be included in a phase two simulator LOFT program -- the LOFT part that's post type rating. We are going to do some feedback in that program which Hugh can mention a little bit later.

In general we are very pleased with the program. Anything we can help you with let us know, and we will be happy to answer questions later.

Hugh Huntington, Organizational Consultants, Inc.

MR. HUNTINGTON: Thank you, Jim. I want to say also thanks to Bob Sellards for opening up the behavioral piece this morning. Sitting in the audience, I was very aware that each time Bob made a controversial statement about behavior, the audience squirmed. It points out something that I'd like us to be aware of here. When I make statements that make you uncomfortable or make you want to squirm, be aware of that. Let's look toward tomorrow by looking at some of the differences that we really struggle with. Most of you come with a very technical background, technical training, left brain dominant, analytical thinking. We are talking about right brain type of activity here, so try to be aware of your uncomfortableness from anything I may say to you.

Let me just make a couple of comments so you can understand the framework in which we developed the program for Piedmont. My company specializes in designing programs for organizations, particularly those that are in the midst of change, and, obviously, Piedmont is very much in the midst of change. Our specialty is in group dynamics and organizational behavior, and our sensitivity to group dynamics, we felt, made us quite useful in captains' upgrade training, the training of new captains.

The research we did was a classic training type of research. We did all sorts of reading, scanned all sorts of data, used a data research group and scanned over 400,000 pieces of literature in six different languages and came up with all the information we could on leadership training, flight crew activities, causes of aircraft accidents, et cetera, and edited that down to about 21 inches of stacked reading material that covers all the familiar names that you would know, like FAA and all the accident reports.

We did extensive interviews with captains; flew about 12 days in the cockpit; saw all kinds of things. We've seen all sorts of mistakes the captains make. We've seen Attila the Hun in the left seat. We've seen the captains that won't make decisions. So we've seen the whole spectrum, we feel.

After all of that research we then sat down and designed the program. We designed it around several issues. The first, of course, is looking at flight safety and how do you make sure that Piedmont maintains its high safety record. We realized that depending on whose data you look at, as much as 80 percent of aircraft accidents are caused by or significantly contributed to by ineffective behavior

in the cockpit. So working around that data became a major portion of the focus of the program.

The second step was to look at the managerial aspects for the captain and how he could begin to perceive himself as a manager. So we referred to him as the branch manager or mid-manager in the organization. We used some simple financial data to help him focus on the purpose of the airline, and then begin to tie his behavior to the attainment or nonattainment of the airline's purpose. So we link the intellectual side of what's the purpose of the organization with his behavior and make him a key piece of that. That's the way we introduce subtly the behavioral aspects of what's happening, and introduce to him the concept that he's responsible for the behavior dynamics inside that airline.

The third aspect, of course, is addressing Piedmont's major change. They are growing from an organization that had three or four hundred pilots four years ago and now they are up to 1,050. They had traditionally been a southern based airline hiring predominantly southern born and raised and grown up pilots. And now the resource base is dry. They've grown so rapidly. Laws required that Piedmont hire Braniff pilots. Piedmont crews were concerned at how to maintain closeness, our unanimity, our sense of oneness in the process of all this change. So we have also helped them address that through the program by teaching each captain that his behavior can help maintain that sense of closeness.

Now, I'd like to take a look at our purpose here today. The first is to review Piedmont's approach to cockpit resource management; the second, to look at the relationship of cockpit resource management training to other aspects of flight training; the third, to review future leadership research plans and cockpit resource management training, things that we have in the works; and fourth, to help us prepare for our work sessions tomorrow by raising critical training issues which we all have in common.

Let me comment a little about the captain's leadership program at Piedmont. The first objective is to teach each new captain how to be aware of the positive and negative effects of his or her leadership style and how to minimize the negative effects. The second objective is to find value in, rather than fault with, another crew member's personal style of interacting. Third, we want to create an awareness of the individual's contribution to unsafe situations and offer skills to eliminate those situations. Fourth, we want to improve crew coordination and decision making. And finally, fifth, we want to teach the captain how to create an atmosphere which will best enhance crew performance and safety, and passenger satisfaction.

There are several assumptions underlying this program. The first is that there is no one correct leadership style for all situations. It keeps us from being judgmental about the individual's particular leadership style. Second, there are leadership styles in certain situations which are more effective than others. That allows us to address the truth that particularly in combinations of personalities as opposed to a single individual. Third, preexisting relationships in the cockpit either have a positive or negative effect on the capacity of the crew to be sensitive to and respond to unsafe or emergency situations. Fourth, different combinations of crew member personalities will affect the behavior demonstrated in handling a problem. And finally, effective leadership styles are most easily attained by teaching captains how to find value in rather than fault with another crew member's style.

One of the things I'd like for us to do here today is to get a very brief sampling of the type of behavior piece that we work with. I want to take a few minutes and have you experience very briefly the initial piece of what it is that we do with the issue of behavior and self esteem at Piedmont.

Let me ask you in the audience to speak up: Tell me, if you were looking at an individual, how would you know that that individual was not feeling good about himself? What would you see or hear? Give me an example.

A VOICE: A lot of criticism of other people.

MR. HUNTINGTON: All right. A lot of criticism of other people.

A VOICE: Posture.

MR. HUNTINGTON: Posture. Slouching, stooping. Okay, what else? Give me more examples.

A VOICE: How he perceives his self worth. Ask him what he can do for the company; if he doesn't give you a good answer, he doesn't think highly of himself.

MR. HUNTINGTON: Okay, he doesn't think highly about himself if he can't identify with his company and talk about his purpose in that company.

Other examples. How do you observe people not feeling good about themselves?

A VOICE: Dress.

MR. HUNTINGTON: All right, the way they dress; they're

sloppy, their shoes aren't shined, their necktie is hanging crooked or whatever.

What else?

A VOICE: Apathy.

MR. HUNTINGTON: Okay, how he filled out his job application. You might even look for whether there is much there or whether there are a lot of lies there.

All right, let's talk about the positive aspects. What do we see when somebody is feeling good about themselves? What do you observe?

A VOICE: Smile.

MR. HUNTINGTON: A smile. Give me more examples.

A VOICE: Interest in others or interest in other things.

MR. HUNTINGTON: Good, interest in others.

A VOICE: Somebody who can listen.

MR. HUNTINGTON: Good, somebody who can listen. Good, excellent. What else?

A VOICE: General positive outlook towards the company he is interviewing with and his past employers.

MR. HUNTINGTON: Constructive outlook, positive attitude.

We could keep building this list. What I want to do by asking you these questions is to demonstrate that we already know what we are looking at when we see somebody who is feeling good about themselves or not feeling good about themselves. So there is no magic in the "sharing" side of this training program. We in this society, particularly males, are not taught to look at behavior. We are taught to look at facts. We are rough and tough. We don't cry, et cetera. In fact, all the behavioral data we need is sitting out there. It is right in front of us.

By teaching a captain, in this case the captain is a manager, to be aware of those types of behavior including his own, then he's in a much better posture to control how the other individual is feeling about himself. What we know is when we feel good about ourselves we can tackle just about any problem that comes along. It doesn't much matter what that problem is. I'm sure most of us being married at

some point in time, walked in the house and your wife says: "Let me tell you what the kids did today." And your response is: "Well, honey, let's sit down." Then you walked in the door on another day and she said: "Let me tell you what the kids did today." And your response is: "Leave me alone. I don't want to hear it. It's your responsibility." Well, that's a simple example of differences in behaviors, even though the events were the same. In these two situations, we are looking at examples of high and low self-esteem.

Well, the point in looking at the issue of self-esteem is that the better we feel about ourselves the better we are able to respond to a particular situation. What we want to do then with the captain's self-esteem is teach him how to keep it at high levels.

(Figures Unavailable)

This slide begins to depict, then, the first of a series of interactions on how we address the captain's leadership program at Piedmont as total resource management of what goes on in the cockpit. If you will, turn to the second sheet there in your handout, and there is an exercise. I'd like you to take only about three minutes apiece. Let's make this brief as a demonstration. I want you to think about captains you have flown with. If you are not a pilot, think of your boss. Think of a captain you've flown with who was the best captain you ever flew with. Think about the things he did with you or said to you or instructed you to do, his attitude towards you. Make brief notes about that. Make as many notes as you can. This is for your use, so make them brief. Take about three minutes to do that.

Now look at your other list, if you would. Think of the captain that you have disliked the most, that Attila the Hun in the left seat. Think of all the things he said or did or his attitude towards you. Make some brief notes about that.

[Three minute interval.]

Let me ask you to stop at this point, and I will return to this example in a moment once I have explained the model to you. Let's look first at the content of the leadership program. First, we focus on the captain as a manager and we use experiential education, which is a group activity involvement where they reflect on their own behavior as opposed to lecturing to them about the best way to communicate.

We focus on the concept of self-esteem and its

influence on behavior. We use three different test instruments to measure leadership styles and conflict handling practices, including one which we've developed on a grid pattern. I was interested to hear that Bob has also done the same. It is an instrument developed strictly for captains, as opposed to a managerial instrument that can be used anywhere. We are in the process of trying to validate the data. There is a lot of statistical work to be done, so it's by no means a clean, pure instrument at this point.

The captains' reaction to seeing their own data is fascinating. They develop an understanding where they stand amongst their peers. So we found that not only do we have a better instrument to tell them their style, but we are also able to show them how they rank with their peers. We use numerous cases addressing cockpit crew flight attendants and ground crew type of interactions.

We also use experiential exercises including video cameras where they are able to look at their behavior in the midst of these exercises. For those of you that have not used video, it is fascinating to look at yourself and your mannerisms. I remember the first time I saw myself, I couldn't believe how serious I looked. People hear their voice tone and are surprised that they are that critical. They see their hand bouncing up and down in a nervous twitch of some sort and weren't even conscious that they were doing it. They hear their deep breathing through the microphones. So it's a real eye opening experience from the personal experience, or learning, standpoint.

We do a lot of feedback on their individual strengths and limitations of particular management styles. We particularly look at the limitations aspect and see how that combines to form a dangerous situation with someone else's style. And yet how with another combination of behavior might not be dangerous at all. So we particularly point out to them the situational volatility. Then we compare the personal data to other class members to demonstrate the multiple combinations of behaviors that are involved.

This slide is a list of the positive kind of behaviors people demonstrate when they are feeling good about themselves. Notice how similar this list is to the list you developed earlier. They are self-confident. They are joyous. They are more open; less defensive. They have a high sense of creativity when facing problems. They are caring people. They are more expressive. They have courage. They express candor and honesty, a high sense of dedication. There is a uniqueness about them as an individual. They are spontaneous. And a significantly enhanced improved listening which is very critical to a captain in our opinion. The bottom line is that they like

themselves.

What's the negative aspect of low self-esteem? They are nonadventuresome. They are defensive. They are suspicious. They are unrealistically fearful. They are self-centered. They are withdrawn. They listen poorly. They are irritable. The base line there is they don't like themselves.

The model we work with focuses on self-esteem. Let me explain the four sources, and we'll shortly get back into your list. As you look at these four sources, you might think about your own list and be looking for those things where the captain would have encouraged your sense of self-esteem, or in the case of the bad captain they would have detracted from your self-esteem.

The first is having a visible achievement of a goal or accomplishment. That may be attaining the rank of captain. It may be learning to fly. It could be cutting the grass. It could be polishing your car. Whatever it is, it's the attainment of a goal.

The second source of self-esteem: The enhancement of power and control and influence over events and situations that are important to us or to that particular individual. We are not talking about political power here. We are talking about the ability of that individual to control his life and make it function in the fashion that he wants it to function. And anything that lowers his sense of self-esteem.

Outside circumstances; for instance, marital stress, divorce, a very sick child, a problem child, a car wreck, and numerous other things that are beyond the person's individual power to control cause a tremendous decrease in self-esteem. Research in factory settings, not with Piedmont pilots, but I think there is probably some correlation, indicates the prime source of self-esteem in manufacturing environments for males is power. Initial indications are 50 to 60 percent of our total source of self-esteem as males comes from that one element.

The third source of self-esteem is being cared about as a unique, valuable and worthwhile person; being treated with respect. A simple example of that is you walk past your boss or chief pilot in the morning and he doesn't speak. Most of us may think, gee, did I forget to put my tie up? What's the matter with me? Do I have bad breath? If you watch TV, everything between the color of your hair and the shininess of your teeth and the shoes you wear determines your self worth. So we have been taught as a society to react to those kinds of things.

A clear sense of not being valued and cared about as a first officer is demonstrated by a captain who acts like you are not worthwhile as you sit in the right seat, that your opinion does not count, that you probably have no information that he has not thought about. And that type of captain lowers the co-pilot's self-esteem.

The fourth source of self-esteem is behaving in ways congruent with deeply held values and beliefs. That is something, of course, that is very individualized. We in this room probably have many that are in common; however, mine might be a little higher in my priority ranking than yours, and vice versa, something is higher for you. When we are living outside those values and beliefs, we get ourselves into a position of lowered self-esteem.

An example of that is a captain that has very strong religious values and is flying on Sunday morning. We don't look at that as a particularly big deal, and you might not see that a whole lot, because people become accustomed to it. A captain who believes he really ought to be at home with his children, because he has a lot of strong values for his family, but chooses to be on the airline flying, has a real contradiction there. So when you ask him to fly an extra day and he reacts angrily with you, the whole issue may be guilt about leaving his children as opposed to not wanting to fly with you. Those are the four sources.

Look at your list for a moment, particularly the negative list and see if you can come up with examples of how your self-esteem is lowered. From the audience, somebody give me an example of something that was said to you or done off of that negative list.

A VOICE: Failure to praise when praise is due.

MR. HUNTINGTON: Okay, failure to praise when praise is due. What source of self-esteem is adversely affected by that type of behavior? Okay, number three. Clearly not being valued or cared about. If praise is due because you've done a good job, then you probably also achieved something like a good landing in bad weather.

Give me another example of how you were treated inappropriately by some Attila the Hun captain.

A VOICE: The captain said it was my leg to fly, yet he told me when to turn, when to level off, when to decrease power.

MR. HUNTINGTON: Okay. The captain told you when to level off, decrease power when it was your turn to fly. What's the source affected there? Number two. Clearly you

have no power and influence in that situation. He is the captain. And from a leadership standpoint I believe somebody needs to be in charge, but when he keeps telling you it's your turn to fly and then tells you when to turn, obviously you are out of control in that situation. And that's a potent way to decrease self-esteem.

I could keep going with the list, but in the interest of time, you've seen the fundamental model we are working with to illustrate how, if a captain continues to treat his co-pilot in a fashion that lowers his co-pilot's self-esteem, he winds up with a useless resource in the cockpit. He winds up with somebody who is angry at him, who withholds information, who doesn't respond to situations appropriately.

We all know that we all know how to get back eventually. And I've unfortunately been told of a number of circumstances where co-pilots got even. The subtle little things like not telling the captain he hadn't put the landing gear down, and they are a hundred feet off the ground. That kind of behavior is explained, "well, if it had been an unsafe situation I never would have done that." Suppose that he had a power failure at that point just as he is ready to say shall we put the gear down? They might have landed then with the gear up. As we read the data out of the accident reports, these type of behaviors are evident.

This is the model we work with. If those four sources are working well, you have an increased sense of self-esteem and a more positive self image. Coming down the right side of that chart we see the positive list of behaviors that we saw on the screen a minute ago. There is an improved sense of personal and organizational performance. When the captain is feeling good about himself, things tend to go well for him. He's the type of captain people like to fly with. So what happens to his self-esteem then? It goes up because they like to be with him. And so it becomes a cycle.

The cycle operates exactly the same way but in reverse. If the captain is feeling grumpy, no one wants to be with him. And when nobody wants to be with him, he starts acting more cantankerous than he was to begin with. And so he is destroying everybody else's self-esteem around him, and then he feels worse about himself. So the behaviors become worse. That's the self-esteem cycle. What we teach the captain is that he has the choice of enhancing or detracting from the co-pilot's or the other crew members' self-esteem. And to that extent he is responsible for what goes on in the cockpit.

We look at self-esteem and draw on three primary

functions of that. Home relations; that includes sick children and everything else. We look at cockpit crew relations, and we look at other crew members relations such as the flight attendants and the ground crew. We tie all that in to safety and finally in to the customers' satisfaction. The way the captain treats the flight attendant affects the way the flight attendant responds to the passenger. And the passengers, satisfaction or dissatisfaction determines whether they come back or not. That affects airline profitability; that's the purpose of the airline.

The second piece that we are doing now, that I want to tie into the cockpit resource management, we refer to as train-the-trainer. Content for the train-the-trainer consists of adult learning methodology. To get to the truth of it, it is literally learning methodology. But adult learning methodology sounds much better than child methodology.

We are in the process now of designing this program and hopefully will have it ready by the end of November. What we are teaching the check airmen to do is to recognize the various learning capabilities of the individuals that they are training. A series of techniques that are involved in that, Bob mentioned this morning right brain, left brain.

Let's do a brief experiment. Hold your thumb up and center your thumb on my face as best you can. Now you're going to see a little bit of a double image. But stick your thumb up and center it on my face as best you can. Now holding it there, close first your left eye and then your right. Note which eye best covers my face. If your left eye best covered my face, you are probably right brained. If your right eye best covered my face you are probably left brained. That's not a scientific methodology we just demonstrated here. What we do know is that it's a pretty rough correlation. We also know that most of us have varying capabilities in those two fields. Maybe it's 60/40, 40/60, whatever the distribution, but we tend to be left brain dominant in this society, because we teach the people to be so analytical. Our pilot training process teaches people to be left brain dominant.

If the individual is left brain dominant, and I make a comment like "let's see if we can visualize in your mind and be creative here", I just lost that student. On the other hand, if the student thinks very visually, creatively, and conceptually, and I say, "folks, the facts are there, now use your head and analyze it", I just lost that student. There are a whole series of other ways that you can look at adult learning methodology, and I will not attempt to go into those. The point is if you are looking at effective

training, your trainer has to be well prepared to respond to the individual at his best level in order to enhance the learning that is taking place.

We use some instrumentation to test learning styles, and these are simple instruments. We look at the implication of brain hemisphere dominance on the individual's learning and the trainer's capacity to respond to that trainee's need. If you get a heavily dominant left brain trainer, then you are going to have a limited trainer. Heavily dominant right brain, you'll also have a limited trainer. So we are looking at trainer selection as another issue.

We are looking also at how to establish positive attitudes in the initial training as well as the check ride situations rather than the pass-fail, win-lose atmosphere. I don't observe that pilots feel comfortable sitting in there, the simulators and I think that adversely affects their learning. If they are there for learning and proficiency, then let's treat them that way, by creating an effective learning environment.

We are also looking at how to best critique a LOFT scenario from a crew interaction standpoint. I am in the process now of developing, with Piedmont's funding, an assessment criteria format. Clay Foushee with NASA has been an invaluable resource in developing an assessment procedure to help the check airmen review the interaction behavior dynamics that are taking place particularly in the LOFT scenario. This can also be done sitting in the cockpit riding and making the observations, so the captain can become aware of his particular interaction style and how that form of communication either adversely affects or positively affects the first officer's position as a resource in the cockpit.

In the process of developing that, we are also going to be working on feedback skills, teaching the check airmen how to more appropriately give feedback instead of saying, "why the hell did you do that?" or "that was stupid" or, "gee, dummy, let's go through that again." More effective skills will enhance learning than that kind of traditional methodology.

Also we are going to teach the check airmen how to give feedback on leadership styles. Someday when Piedmont slows its growth and everything catches up, hopefully what we will have is that the captains who have been trained in the leadership program being given feedback about their LOFT scenario by a check airman who in fact knows about the leadership model so that all that will tie together very neatly and tightly.

We see a couple of critical issues in this whole train-the-trainer program. One is what are the trainer's qualifications and what were the selection procedures. And second, trainer burn-out and rotation and how do those things affect the learning of the trainee.

The next aspect is the research piece, and I already mentioned that through the other slide, but our research includes what I'm doing with Clay Foushee of NASA. It also includes the managerial research piece that we are working on. Hopefully, at some point we will have collected enough data in the training program to begin to do some correlation work with the individual's personal score and implications for his leadership style. This obviously will be done with no names on the survey. It will be done either with a mass group of people, or if our approach is to try to correlate those scores with other things then they will be assigned a code number that only the individual knows so that we will not be revealing personal data.

That's the type of research we want to do. At this point we are simply gathering managerial information data from the classes, and we don't have a sufficient log to do anything that's of statistical validity.

The next major thing we are doing is working on the LOFT concept, tying in the train-the-trainer, tying in the information taught in the captains leadership program, putting that all into the LOFT concept so that each time the captain will come through his LOFT exercise he gets the reinforcement of that same information.

The last thing we hope to do is work with flight attendants. The flight attendants are a significant part of aircraft safety and therefore need to communicate well with the cockpit crews. We will also be helping them to maintain their own self-esteem in the face of a cantankerous flight crew or a cantankerous passenger.

Our concept, then, is that if the entire flight crew from the front end to the back end of the airplane has an increased sense of self-esteem that they are going to be a better crew, that the positive sense of self-esteem will reinforce itself in aircraft safety, in the passengers' satisfaction, and in the capacity of the airline to sustain itself at a profitable level. So we teach it both from a safety standpoint and from a managerial standpoint.

Piedmont will begin to offer this program to contract carriers to teach them what it's about. We are also going to be offering train-the-trainer, although the program probably won't be available commercially until perhaps March.

I want to raise a couple of critical questions before we throw it open to questions. These are questions we struggle with, and I thought I'd share them with you for the benefit of the seminar and our group work tomorrow.

The first critical question is how to achieve actual behavior change from a training or LOFT program. We are looking at the need to achieve behavior change, and how do you do that.

The second: Can a LOFT design incorporate skills which will facilitate behavior changes when administered by pilot instructors? If so, how do you train them? They are not psychologists. They are not trained in behavior. What is the methodology in which you train them? I think there are some ways to do that, but I think it will require some very specific instructions and very specific limitations. Is it acceptable to work with feelings during feedback or is cognitive material the only acceptable format? Behavior is feeling oriented. And despite the fact we think we are geniuses, most of our behavior comes out of our gut and not out of our head. So is it appropriate then to deal with feelings, or shall we be cognitively safe?

The next issue: How does the instructor know when the trainee has achieved skills for new behaviors that will demonstrate that he is making a commitment to that behavior?

Next, what methods will best reinforce new behaviors that the pilots learned in the training session, particularly with him sitting in there all by himself flying that airplane when nobody sees him. What's the best method of reinforcement?

Next, how to protect the integrity of the crew member who chooses not to reveal his behavior? I think that's a critical question. We really have to watch that. I recognize a struggle between management and the union and the ineffective captain. I think that there is a whole other level. The integrity of the individual needs to be protected. We are not trained shrinks in the counseling sense. If he doesn't voluntarily come in to deal with that situation, how do we address it? I think there are some very good guidelines that need to be developed around that, strong cooperation between unions and management as to how to deal with the ineffective captain who is flying the airplane.

And at last, the last item: What is management's and the union's responsibility to the public in dealing with crew members who continually demonstrate ineffective cockpit behavior. What are the appropriate evaluative criteria?

DR. LAUBER: Thank you, Hugh and Jim, for giving us that detailed look at the program you have under way at Piedmont. Let's throw the floor open to questions, comments, discussion, whatever. Who would like to start?

MR. FISHER: I'm Bob Fischer of Summit.

There is a thing called Maslow's hierarchy of needs and you folks are operating in the upper realms of that. Do you pay any attention to the lower parts?

MR. HUNTINGTON: Maslow is an old friend. We deal with Maslow in the context of a self-esteem model. I've worked with the Maslow concept for years. If I had the captains for a longer period of time, I would teach them that, and that's maybe what I will add in the half day process that Jim and I have been talking about.

What I found is that the feeling orientation, teaching males to be sensitive to feelings, takes care of the vast majority of Maslow's hierarchy. I taught it for years and found the only way that people ever transferred the learning was when you put it at the feeling level and got it out of the cognitive context.

DR. FOUSHEE: I'd like to ask a quick question here. Hugh, you are obviously dealing a lot on the feeling level. You talked a lot about self-esteem. That's an area, and I think most of the people here would agree, that pilots probably tend to be a little bit uncomfortable with in the beginning. Could you comment on the process that you go through with these people and how that works out?

MR. HUNTINGTON: Yes. It's simple and crude. I begin with the groundwork that says we need to be honest with each other in this class and what comes up in this class is private to this class and will not be repeated outside. And then I ask them if anybody in the group has a problem with that. I begin at that point to demonstrate a process of integrity and honesty, and I will very gently give them feedback about concerns I have about their individual styles.

In the process of dealing with feelings, I make a very brief statement about how we as males, particularly in the Western culture, have been taught not to deal with feelings and that what's happened is we've cut off a real resource to ourselves. Then I start tying in aircraft related data -- accident data -- that says that if the captain had learned to listen and had not been quite so defensive, maybe this wouldn't have happened.

By the process of my individual interaction style and the use of actual aircraft accident data, I demonstrate that we are all vulnerable to not hearing and not managing the total resources.

Then I make it safe for people who want to start talking about feelings and I'll ask them what they feel. And they will typically say, well, I feel like that's a good idea. And I say that's not a feeling, that's a thought. And through that continual sort of bantering and light joking, by the end of the two days they get into some pretty heavy feelings.

It's not a sensitivity lab. That's not the purpose. They start saying, "Yeah, you know, I really do get pretty angry when that co-pilot sits over there and says nothing. I hate a bungling idiot who says nothing to me." And I say, "what is your piece of the responsibility? Let's look at your leadership style." And he shows me a style that's very passive. I say to him "when's the last time you asked your first officer to give you information?" And then I teach him how he can start going about it.

One of the things we do is teach the new captains to prepare a speech for each new first officer they fly with -- and at Piedmont they rotate crews every 30 days or once a month. And what we do is teach them how to make a speech, an introductory speech that I really want you as a resource, and I don't want to drive you away. And if I come on to you too hard, say something to me like hey, wait a minute, I have a thought, or wait a minute, listen to what I have to say first." So we teach the captain how to give the co-pilot permission to be however the co-pilot needs to be to be a maximum resource.

So we do some behavior rehearsal. Clay, that's the way I approach it. It's nothing deep, it's very simple and it's very brief, but I find it to be very potent and very effective.

DR. LAUBER: Did I see a question over here a little earlier?

MR. LAUBER: Chuck Brewer from Summit Airlines. What do you find to be an optimum class size for this type of training? And secondly, the scenarios that you are dealing with, are they from accident reports? Are they from line pilots that have given information to you that are actual Piedmont problems and operational problems? What's your source of scenarios and how do you present them in a class?

MR. HUNTINGTON: The source of scenarios is both from aircraft accidents as well as from testimonials that we've

had of captains on the line that we interviewed. Our cases are written around actual Piedmont examples. We also take things like an aircraft accident and without trying to alter the content -- in fact, what we do is check the content with the management staff to make sure we have maintained the integrity of the content -- we will write a case scenario description around an aircraft accident so that we document it from an elapsed time standpoint. We clean it up from the harsh analytical viewpoint that the typical aircraft accident report goes through. We make it a little more human and real. And that becomes a case.

Your first question addressed optimal size, and frankly, I have not had the option to determine the optimal size in this program, because Piedmont has a very limited reserve staff, and it's all they can do to cut loose six people at one time. I would frankly like to see it at ten to twelve. That gives me much more flexibility with experiential design models, learning games. It gives me much more cross-section of pilots, because in a couple of groups I wound up with so many people that acted so much alike, I couldn't make any interpersonal differentiation. So then I had to make up hypothetical examples to cover people that had already been in the program.

I would much rather be able to contrast Bob and Tom and say let's talk about you two flying together. Bob, you are the captain first. What are those dynamics? And then I switch it. What I demonstrate from that exercise is that when you switch it it's a very different dynamic. So from an optimal six standpoint, I think I'd rather be operating at from ten to twelve.

DR. LAUBER: Any more questions? Okay. Very good. Thanks again to Jim and Hugh.

Once again we're going to switch gears to some extent and take a look at another issue that we wanted to raise for this workshop and to have you deal with during the course of your working group meetings tomorrow.

I know that many of you were in Tampa or at other meetings where you've heard Ed Carroll from United present United's cockpit resource management program. Knowing that was one of the reasons I asked Ed and United to put together the presentation for this conference that rather than take a look specifically at United's cockpit resource management program, we take a broader look at the whole issue of integrated flight crew training as it's been done at United.

Ed Carroll was an Army Air Corps pilot and then joined United in 1946, was promoted to captain in 1956 and entered United Airlines's management in 1961. He became an officer

in the company in 1976 and 1977 was assigned as the vice-president of flight standards and training at Denver.

He's corrected me on the next sentence. Initially he said he flew seven of United's aircraft from the DC8 through the Boeing 747, which doesn't fit with either the year of hire or the seven aircraft. But it is the DC3 through the Boeing 747.

In June of 1982, Ed retired as vice-president of flight standards and training and since that time has been working under contract with United as the program administrator for United's cockpit resource management program.